

SEQUENCE LISTING

<110> OULMOUDEN, AHMAD
 JULIEN, RAYMOND
 LAFORET, MARIE-PIERRE
 LEVEZIEL, HUBERT

<120> USE OF SILVER GENE FOR THE AUTHENTICATION OF
 THE RACIAL ORIGIN OF ANIMAL POPULATIONS, AND
 OF THE DERIVATIVE PRODUCTS THEREOF

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<140> 10/565,646
 <141> 2006-03-24

<150> PCT/FR2004/001952
 <151> 2004-07-22

<150> FR/09161
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Phe	Pro	Asp	Gly	Glu	Pro	Cys	Pro	Ser	Gly	Pro	Leu	Ser	Gln	Lys	Arg	
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Cys	Phe	Val	Tyr	Val	Trp	Lys	Thr	Trp								
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Pro Glu Trp Thr Glu Ser Gln Gly Pro Asp Cys Trp Arg Gly Gly His
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Ile Ser Leu Lys Val Ser Asn Asp Gly Pro Thr Leu Ile Gly Ala Asn
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Ala Ser Phe Ser Ile Ala Leu His Phe Pro Lys Ser Gln Lys Val Leu
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Val Leu Gly Gly Pro Val Ser Gly Leu Ser Ile Gly Thr Asp Lys Ala
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Met Leu Gly Thr Tyr Asn Met Glu Val Thr Val Tyr His Arg Arg Gly
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Ser Gln Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr Ile
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Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro Leu Thr Phe Ala
225 230 235 240
Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Gly Ala Asp Leu Ser
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275 280 285
 Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys Gly Ser Ser Pro
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615

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<211> 291
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<223> Probe

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<223> Synthetic Primer

<400> 10

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30

<210> 11

<211> 30

<212> DNA

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<223> Synthetic Primer

<400> 11

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30

<210> 12

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<212> DNA

<213> Artificial sequence

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<223> Synthetic Nucleotide

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 35 40 45

Tyr Pro Glu Trp Thr Glu Ser Gln Gly Pro Asp Cys Trp Arg Gly Gly
 50 55 60

His Ile Ser Leu Lys Val Ser Asn Asp Gly Pro Thr Leu Ile Gly Ala
 65 70 75 80

Asn Ala Ser Phe Ser Ile Ala Leu His Phe Pro Lys Ser Gln Lys Val
 85 90 95

Leu Pro Asp Gly Gln Val Ile Trp Ala Asn Asn Thr Ile Ile Asn Gly
 100 105 110

Ser Gln Val Trp Gly Gly Gln Leu Val Tyr Pro Gln Glu Pro Asp Asp
 115 120 125

Thr Cys Ile Phe Pro Asp Gly Glu Pro Cys Pro Ser Gly Pro Leu Ser
 130 135 140

Gln Lys Arg Cys Phe Val Tyr Val Trp Lys Thr Trp Asp Gln Tyr Trp
 145 150 155 160

Gln Val Leu Gly Gly Pro Val Ser Gly Leu Ser Ile Gly Thr Asp Lys
 165 170 175

Ala Met Leu Gly Thr Tyr Asn Met Glu Val Thr Val Tyr His Arg Arg
 180 185 190

Gly Ser Gln Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr
 195 200 205

Ile Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln Leu Gln Ala

210

215

Leu Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro Leu Thr Phe
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Ala Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Gly Ala Asp Leu
245 250 255

Ser Tyr Thr Trp Asp Phe Gly Asp Ser Thr Gly Thr Leu Ile Ser Arg
260 265 270

Ala Leu Thr Val Thr His Thr Tyr Leu Glu Ser Gly Pro Val Thr Ala
275 280 285

Gln Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys Gly Ser Ser
290 295 300

Pro Val Pro Gly Thr Thr Asp Arg His Val Thr Thr Ala Glu Ala Pro
305 310 315 320

Gly Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Met Gly Thr Thr
325 330 335

Pro Gly Gln Val Pro Thr Ala Glu Ala Pro Gly Thr Thr Val Gly Trp
340 345 350

Val Pro Thr Thr Glu Asp Val Gly Thr Thr Pro Glu Gln Val Ala Thr
355 360 365

Ser Lys Val Leu Ser Thr Thr Pro Val Glu Met Pro Thr Ala Lys Ala
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Thr Gly Arg Thr Pro Glu Val Ser Thr Thr Glu Pro Ser Gly Thr Thr
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Val Thr Gln Gly Thr Thr Pro Glu Leu Val Glu Thr Thr Ala Gly Glu
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Val Ser Thr Pro Glu Pro Ala Gly Ser Asn Thr Ser Ser Phe Met Pro
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Thr Leu Val Leu Glu Lys Arg Gln Ala Pro Leu Asp Cys Val Leu Tyr
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Arg Tyr Gly Ser Phe Ser Leu Thr Leu Asp Ile Val Gln Gly Ile Glu
465 470 475 480

Ser Ala Glu Ile Leu Gln Ala Val Ser Ser Ser Glu Gly Asp Ala Phe
485 490 495

Glu Leu Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala Cys Met
500 505 510

Asp Ile Ser Ser Pro Gly Cys Gln Leu Pro Ala Gln Arg Leu Cys Gln
515 520 525

Pro Val Pro Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln Val Leu
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Lys Gly Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala Asp Ala
545 550 555 560

Asn Ser Leu Ala Met Val Ser Thr Gln Leu Val Met Pro Gly Gln Glu
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Ala Gly Leu Arg Gln Ala Pro Leu Phe Val Gly Ile Leu Leu Val Leu
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Thr Ala Leu Leu Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu Met Lys
595 600 605

Gln Gly Ser Ala Val Pro Leu Pro Gln Leu Pro His Gly Arg Thr Gln
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<220>
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<400> 17

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Leu Gly Val Ser Arg Gln Leu Arg Ile Lys Ala Trp Asn Arg Gln Leu
 35 40 45

Tyr Pro Glu Trp Thr Glu Ser Gln Gly Pro Asp Cys Trp Arg Gly Gly
 50 55 60

His Ile Ser Leu Lys Val Ser Asn Asp Gly Pro Thr Leu Ile Gly Ala
 65 70 75 80

Asn Ala Ser Phe Ser Ile Ala Leu His Phe Pro Lys Ser Gln Lys Val
 85 90 95

Leu Pro Asp Gly Gln Val Ile Trp Ala Asn Asn Thr Ile Ile Asn Gly
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100

105

110

Ser Gln Val Trp Gly Gly Gln Leu Val Tyr Pro Gln Glu Pro Asp Asp
 115 120
 Thr Cys Ile Phe Pro Asp Gly Glu Pro Cys Pro Ser Gly Pro Leu Ser
 130 135 140
 Gln Lys Arg Cys Phe Val Tyr Val Trp Lys Thr Trp Asp Gln Tyr Trp
 145 150 155 160
 Gln Val Leu Gly Gly Pro Val Ser Gly Leu Ser Ile Gly Thr Asp Lys
 165 170 175
 Ala Met Leu Gly Thr Tyr Asn Met Glu Val Thr Val Tyr His Arg Arg
 180 185 190
 Gly Ser Gln Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr
 195 200 205
 Ile Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln Leu Gln Ala
 210 215 220
 Leu Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro Leu Thr Phe
 225 230 235 240
 Ala Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Gly Ala Asp Leu
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 Ser Tyr Thr Trp Asp Phe Gly Asp Ser Thr Gly Thr Leu Ile Ser Arg
 260 265 270
 Ala Leu Thr Val Thr His Thr Tyr Leu Glu Ser Gly Pro Val Thr Ala
 275 280 285
 Gln Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys Gly Ser Ser
 290 295 300
 Pro Val Pro Gly Thr Thr Asp Arg His Val Thr Thr Ala Glu Ala Pro
 305 310 315 320
 Gly Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Met Gly Thr Thr
 325 330 335
 Pro Gly Gln Val Pro Thr Ala Glu Ala Pro Gly Thr Thr Val Gly Trp
 340 345 350

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Ser Lys Val Leu Ser Thr Thr Pro Val Glu Met Pro Thr Ala Lys Ala
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Thr Gly Arg Thr Pro Glu Val Ser Thr Thr Glu Pro Ser Gly Thr Thr
385 390 395 400

Val Thr Gln Gly Thr Thr Pro Glu Leu Val Glu Thr Thr Ala Gly Glu
405 410 415

Val Ser Thr Pro Glu Pro Ala Gly Ser Asn Thr Ser Ser Phe Met Pro
420 425 430

Thr Glu Gly Thr Ala Gly Ser Leu Ser Pro Leu Pro Asp Asp Thr Ala
435 440 445

Thr Leu Val Leu Glu Lys Arg Gln Ala Pro Leu Asp Cys Val Leu Tyr
450 455 460

Arg Tyr Gly Ser Phe Ser Leu Thr Leu Asp Ile Val Gln Gly Ile Glu
465 470 475 480

Ser Ala Glu Ile Leu Gln Ala Val Ser Ser Ser Glu Gly Asp Ala Phe
485 490 495

Glu Leu Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala Cys Met
500 505 510

Asp Ile Ser Ser Pro Gly Cys Gln Leu Pro Ala Gln Arg Leu Cys Gln
515 520 525

Pro Val Pro Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln Val Leu
530 535 540

Lys Gly Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala Asp Ala
545 550 555 560

Asn Ser Leu Ala Met Val Ser Thr Gln Leu Val Met Pro Gly Gln Glu
565 570 575

Ala Gly Leu Arg Gln Ala Pro Leu Phe Val Gly Ile Leu Leu Val Leu
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Thr Ala Leu Leu Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu Met Lys
595 600 605

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Gln Gly Ser Ala Val Pro Leu Pro Gln Leu Pro His Gly Arg Thr Gln
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Lys Pro Leu Leu Ser Gly Gln Gln Val
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Thr Asp Lys Ala Met Leu Gly Thr Tyr Asn Met Glu Val Thr Val Tyr
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35 40 45

Ala Phe Thr Ile Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln
50 55 60

Leu Gln Ala Leu Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro
65 70 75 80

Leu Thr Phe Ala Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Gly
85 90 95

Ala Asp Leu Ser Tyr Thr Trp Asp Phe Gly Asp Ser Thr Gly Thr Leu
100 105 110

Ile Ser Arg Ala Leu Thr Val Thr His Thr Tyr Leu Glu Ser Gly Pro
115 120 125

Val Thr Ala Gln Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys
130 135 140

Gly Ser Ser Pro Val Pro Gly Thr Thr Asp Arg His Val Thr Thr Ala
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Glu Ala Pro Gly Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Met
165 175

Gly Thr Thr Pro Gly Gln Val Pro Thr Ala Glu Ala Pro Gly Thr Thr
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Val Gly Trp Val Pro Thr Thr Glu Asp Val Gly Thr Thr Pro Glu Gln
195 200 205

Val Ala Thr Ser Lys Val Leu Ser Thr Thr Pro Val Glu Met Pro Thr
210 215 220

Ala Lys Ala Thr Gly Arg Thr Pro Glu Val Ser Thr Thr Glu Pro Ser
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Gly Thr Thr Val Thr Gln Gly Thr Thr Pro Glu Leu Val Glu Thr Thr
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Ala Gly Glu Val Ser Thr Pro Glu Pro Ala Gly Ser Asn Thr Ser Ser
260 265 270

Phe Met Pro Thr Glu Gly Thr Ala Gly Ser Leu Ser Pro Leu Pro Asp
275 280 285

Asp Thr Ala Thr Leu Val Leu Glu Lys Arg Gln Ala Pro Leu Asp Cys
290 295 300

Val Leu Tyr Arg Tyr Gly Ser Phe Ser Leu Thr Leu Asp Ile Val Ser
305 310 315 320

Ile Glu Ser Ala Glu Ile Leu Gln Ala Val Ser Ser Ser Glu Gly Asp
325 330 335

Ala Phe Glu Leu Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala
340 345 350

Cys Met Asp Ile Ser Ser Pro Gly Cys Gln Leu Pro Ala Gln Arg Leu
355 360 365

Cys Gln Pro Val Pro Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln
370 375 380

Val Leu Lys Gly Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala
385 390 395 400

Asp Ala Asn Ser Leu Ala Met Val Ser Thr Gln Leu Val Met Pro Gly
405 410 415

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Gln Glu Ala Gly Leu Arg Gln Ala Pro Leu Phe Val Gly Ile Leu Leu
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Val Leu Thr Ala Leu Leu Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu
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Met Lys Gln Gly Ser Ala Val Pro Leu Pro Gln Leu Pro His Gly Arg
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Thr Gln Trp Leu Arg Leu Pro Trp Val Phe Arg Ser Cys Pro Ile Gly
 465 470 475 480

Glu Ser Lys Pro Leu Leu Ser Gly Gln Gln Val
 485 490